

BV Series

Desiccant Air Dryers



The Parker Airtek BV Series Heatless Dryer provides a simple, reliable and economical method for removing water vapor from compressed air. Capable of achieving a dewpoint of -40°F (-40°C), the BV Series is ideal for applications where compressed air lines are exposed to sub freezing ambient temperatures, or where special processes require air at an extremely low relative humidity. This “no frills” unit provides instrument quality air and is designed for maximum reliability and long, trouble-free service.

Two desiccant towers are filled with activated alumina, a spherical-shaped hygroscopic material, selected for its uniform size, shape and high surface area to volume ratio. As saturated air flows up through the “on line” tower, its moisture content adheres to the surface of the activated alumina beads. The dry (-40°F (-40°C) dewpoint) air is then discharged from the tower into the distribution system. After three minutes of operation on one tower the flow is switched to the other tower through the use of a timed system of directional valves. A portion of the dried compressed air is diverted through an orifice, expanded to atmospheric pressure, and directed into the off line, or regenerating tower, where the moisture accumulated during the drying cycle is stripped off and purged to the atmosphere.

The use of a coalescing type pre-filter is necessary to protect the activated alumina from the oil contamination. A particulate after-filter is recommended to prevent desiccant dust from migrating downstream. In general, heatless dryers are the most reliable and least expensive of all desiccant type dryers, operate with the fewest moving parts, and have the longest desiccant life expectancy. Factory packaging with matched components and single point connections reduces installation costs, assures performance and allows Parker Airtek to assume total responsibility for system integrity.



Features & Benefits:

- **CycleLoc™ controller permits wiring interface with air compressor, shut down of dryer when compressor is not running and prevention of unnecessary use of compressed air. Dryer starts back up at proper spot in its cycle.**
- **Clean, dry oil-free air meets ISO 8573.1 Class 1.2.1**
- **Low power requirement- less than 20 watts @ 120V/1Ph/60Hz**
- **Few moving parts - low maintenance**
- **Reliable solid state controller eliminates problems associated with antiquated cam timers**
- **Fully automatic - operates continuously without attention**
- **Separate fill and drain ports**
- **Purge exhaust mufflers**

Standard Equipment

- Electric 120V/1Ph/60Hz
 - Solid State Controller
 - NEMA 4 Control
 - CycleLoc™ Demand Controls
 - CRN Registered
 - ASME Code (BV105 thru BV280)
 - High Life Cycle Switching Valves
 - Safety Relief Valves
 - Locally Mounted Tank Pressure Gauges
 - Purge Exhaust Muffler(s)
 - Control Air Filter
 - Separate Tower Fill and Drain Ports
 - Stainless Steel Diffuser Screens
 - Low Ambient Package*
 - Filters Mounted*
- *Optional

Engineering Data Specifications

Model	Flow Rate @ 100 psi g scfm (Nm ³ /min @ 7 bar g)	Approx. Purge scfm (Nm ³ /min)	Pipe Size In/Out	Height* in (mm)	Width* in (mm)	Depth* in (mm)	Weight* lbs (kg)
BV12	12 (.34)	1.8 (.05)	3/8"	46 (1168)	19 (483)	14 (356)	97 (44)
BV20	20 (.57)	3.5 (.10)	3/8"	46 (1168)	19 (483)	14 (356)	101 (46)
BV36	36 (1)	5.4 (.15)	1/2 "	67 (1702)	19 (483)	14 (356)	140 (64)
BV50	50 (1.4)	7.5 (.21)	1/2 "	66 (1676)	21 (533)	14 (356)	171 (78)
BV80	80 (2.3)	12 (.34)	3/4"	66 (1676)	21 (533)	14 (356)	207 (94)
BV105	105 (3)	16 (.45)	1"	80 (2032)	31 (787)	18 (457)	390 (177)
BV160	160 (4.5)	24 (.68)	1"	80 (2032)	31 (787)	18 (457)	476 (216)
BV220	220 (6.2)	33 (.93)	1 1/2"	82 (2083)	40 (1016)	22 (559)	704 (319)
BV280	280 (8)	42 (1.2)	1 1/2"	82 (2083)	40 (1016)	22 (559)	746 (338)

*Dimensions/weight based on dryer with recommended filters mounted.

Max. Inlet Temperature	120°F (49°C)	Dewpoint	-40°F (-40°C)
Min. Inlet Temperature	50°F (10°C)	ISO Quality Class	8573.1 Class 1.2.1
Max. Working Pressure	150 psi g (10.3 bar g)	Standard Electronics	120V/1Ph/60Hz
Min. Working Pressure	80 psi g (5.5 bar g)	Controls	Solid State Board

Correction Factors

Inlet Air Pressure

psi g	50	60	70	80	90	100	110	120	130	140	150
bar g	3.5	4.1	4.9	5.5	6.2	6.9	7.6	8.3	9.0	9.7	10.3
CF	.56	.65	.74	.83	.91	1	1.09	1.18	1.27	1.37	1.43

Temperature

°F	90	95	100	105	110	115	120
°C	32	35	38	41	43	46	49
CF	1.35	1.16	1	0.85	0.74	0.64	0.56